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#### (54) VIDEO PROCESSING SYSTEM

##### (57)Abstract:

PROBLEM TO BE SOLVED: To provide a video processing system capable of having a user instinctively recognize correspondence relation between a standard video and a wide angle video.

SOLUTION: When a wide angle image is processed by this system, the standard video 1a is picked up with optional photographing magnification by a photographing means 1. In addition, image data 3a segmented from the standard video 1a is stored by a storage means 3. The wide angle image 4a is generated from the image data 3a by a wide angle image generation means 4. The wide angle image 4a and the standard image 1a are displayed by an image display means 5. Input of instruction of a photographing condition including the

photographing magnification is accepted for the standard video 1a by a photographing condition instruction means 6. The photographing means 1 is activated according to the photographing condition by a photographing condition execution means 7. And a wide angle image updating instruction is outputted so that display magnification of the wide angle image 4a is changed by being synchronized with the standard video 1a by a wide angle image updating means 8. Therefore, the wide angle image 4a is also changed by being synchronized with a change of the standard video 1a.

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**CLAIMS**

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[Claim(s)]

[Claim 1] A photography means to photo a standard image for the photography scale factor of arbitration in the image processing system which processes a wide angle image, A storage means to memorize the image data started from said standard image, and a wide angle image creation means to create a wide angle image from said image data, An image display means to display said wide angle image and said standard image, and a photography condition directions means to receive the directions input of the photography conditions containing a

photography scale factor about said standard image, The image processing system characterized by having a photography condition activation means to operate said photography means according to said photography conditions, and a renewal means of a wide angle image to output the renewal command of a wide angle image so that it may side with said standard image and the display scale factor of said wide angle image may be changed.

[Claim 2] It is the image processing system according to claim 1 which has a display condition directions means to receive the directions input of the display condition containing a display scale factor about said wide angle image, and is characterized by said photography condition activation means operating said photography means according to said display condition.

[Claim 3] It is the image processing system according to claim 1 characterized by said photography condition activation means operating said driving means according to said photography conditions when it has the driving means which moves and rotates said photography means and photography part assignment is included in said photography conditions.

[Claim 4] It is the image processing system according to claim 3 which has a display condition directions means to receive the directions input of a display condition including display part assignment about said wide angle image, and is characterized by said photography condition activation means operating said

driving means according to said display means.

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] Especially this invention relates to the image processing system which processes a wide angle image about an image processing system.

[0002]

[Description of the Prior Art] Conventionally, there is a demand of wanting to acquire a photography image from the video camera installed in a remote place etc. only by actuation of a computer, from the objects, such as observation, and a monitor, advice.

[0003] Then, in response to such a demand, there is a technique which connects photography equipment and computers, such as a video camera, in a network etc. A user does not need to go to the installation of a video camera specially, does not need to operate it, and should just operate the computer by which the connection with a camera and setting out ended.

[0004] Generally such an image processing system requires not only a standard

image but acquisition of a wide angle image (panorama image). Moreover, a function which carries out the enlarged display of a user's appointed place is also required.

[0005] By the way, in order to acquire a panorama image with a video camera etc., the expensive wide angle system lens etc. had to be used before. However, by current, an image processing is performed to the standard image photoed by the standard lens, a panorama image is created, and how to control cost is considered. In addition, a "image" shall mean an animation among this description and a "image" shall mean a still picture.

[0006] In the image processing system using this approach, the standard image of two or more sheets beforehand photoed by the standard lens is made to connect, and a panorama image is created and displayed. Moreover, apart from a panorama image, the live image which image pick-up equipment is photoing at the event is also displayed. In addition, if the part and the scale factor of choice are specified when there is a part which wants to change and supervise a scale factor in a panorama image, the image of the assignment scale factor of the appointed place will be displayed as a live image.

[0007]

[Problem(s) to be Solved by the Invention] However, in the above image processing systems, the display scale factor of a panorama image could not be

changed, but had the trouble of being hard for a user to grasp the response relation between a standard image and a panorama image.

[0008] This invention is made in view of such a point, and it aims at offering the image processing system which is aligned with modification of a standard image and also changes a wide angle image.

[0009]

[Means for Solving the Problem] In the image processing system which processes a wide angle image in order to solve the above-mentioned technical problem in this invention A photography means to photo a standard image for the photography scale factor of arbitration, and a storage means to memorize the image data started from said standard image, An image display means to display a wide angle image creation means to create a wide angle image from said image data, and said wide angle image and said standard image, A photography condition directions means to receive the directions input of the photography conditions containing a photography scale factor about said standard image, The image processing system characterized by having a photography condition activation means to operate said photography means according to said photography conditions, and a renewal means of a wide angle image to output the renewal command of a wide angle image so that it may side with said standard image and the display scale factor of said wide angle image



may be changed is offered.

[0010] When processing a wide angle image with such an image processing system, a photography means photos a standard image for the photography scale factor of arbitration. Moreover, a storage means memorizes the image data started from the standard image. A wide angle image creation means creates a wide angle image from image data. An image display means displays a wide angle image and a standard image. A photography condition directions means receives the directions input of the photography conditions which contain a photography scale factor about a standard image. A photography condition activation means operates a photography means according to photography conditions. And the renewal means of a wide angle image sides with a standard image, and it outputs the renewal command of a wide angle image so that the display scale factor of a wide angle image may be changed.

[0011] Thus, a wide angle image is generated from a standard image, and since the wide angle image to display is aligned and updated to photography condition modification on a standard image, a user can be made to recognize intuitively the response relation between a standard image and a wide angle image in the image processing system of this invention.

[0012]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention

is explained with reference to a drawing. Drawing 1 is the block diagram showing the principle configuration of the image processing system of this invention.

[0013] the image processing system of this invention -- the photography means 1, a driving means 2, the storage means 3, the wide angle image creation means 4, the image display means 5, the photography condition directions means 6, the photography condition activation means 7, and the renewal means 8 of a wide angle image -- since -- it is constituted.

[0014] The photography means 1 is a video camera with the standard lens which can be photoed for the photography scale factor of arbitration etc. here, and standard image 1a is photoed. Moreover, a driving means 2 moves the photography means 1, or is rotated. The storage means 3 memorizes image data 3a started from standard image 1a. The wide angle image creation means 4 creates this image data 3a to wide angle image 4a. The image display means 5 displays wide angle image 4a and standard image 1a. The photography condition directions means 6 receives the directions input of the photography conditions containing a photography part and a scale factor about standard image 1a. The photography condition activation means 7 operates a driving means 2 and the photography means 1 according to photography conditions. And the renewal means 8 of a wide angle image aligns with standard image 1a, and it outputs the renewal command of a wide angle image so that the center

position and scale factor of wide angle image 4a may be changed.

[0015] If the photography conditions about standard image 1a are received in the image processing system of this invention, since it will align and wide angle image 4a will be updated, a user can be made to recognize intuitively the response relation between standard image 1a and wide angle image 4a.

[0016] Drawing 2 is a block diagram when [ whole ] a computer realizes the image processing system of this invention. The image processing system of this invention is seen roughly, and consists of the photography section 10 which is a video camera, the camera actuator 20, the camera-control section 30, a network 40, and a computer 50.

[0017] The photography section 10 supports the photography means 1 shown in drawing 1 , and has the lens block 11, SH [ CCD (Charge Coupled Device)12 and ] (Sample Hold)/AGC (Automatic Gain Control)13, the A/D-conversion section 14, the signal-processing section 15, and a motor 16. And a video signal is generated.

[0018] Moreover, the camera actuator 20 supports the driving means 2 shown in drawing 1 , and has the revolution universal head 21, the motor 22 for pans, and the motor 23 for tilts. And the photography section 10 is moved or it is made to rotate.

[0019] The camera-control section 30 supports the photography condition

activation means 7 shown in drawing 1 , and has the camera controller 31, the punch Ruta controller 32, and the mode controller 33. It connects with the computer 50 through the network 40, and this camera-control section 30 controls the photography section 10 and the camera actuator 20 according to the control command transmitted from a computer 50.

[0020] The computer 50 has CPU54 corresponding to the photography condition directions means 6 and the renewal means 8 of a wide angle image which were shown in video capture 51, the data storage section 52 corresponding to the storage means 3 shown in drawing 1 , the image-processing section 53 corresponding to the wide angle image creation means 4 shown in drawing 1 , and drawing 1 , and the monitor 55 corresponding to the image display means 5 shown in drawing 1 . In addition, a user inputs the directions to an image processing system from input means (not shown), such as a keyboard connected to this computer 50, and a mouse. Moreover, live graphic display section 55a and panorama image display section 55b are independently prepared for a monitor 55. In addition, a panorama image means a wide angle image for the standard image which stated the live image described below by drawing 1 .

[0021] Here, the lens block 11 of the photography section 10 consists of a lens and drawing, and carries out image formation of the image pick-up light which

reaches from a photographic subject to CCD12. In addition, the lens block 11 is later explained to a detail. CCD12 changes a visual field image into a video signal, and inputs it into SH/AGC13. While carrying out sample hold of the inputted video signal, gain control of SH/AGC13 is carried out so that it may have predetermined gain with the control signal of an art iris. The A/D-conversion section 14 changes analog data into digital data. And the signal-processing section 15 changes the digital image data inputted into a luminance signal, a color-difference signal, and a video signal, and transmits to the video capture 51 of a computer 50.

[0022] When the lens block 11 is explained again, this lens block 11 is the zoom lens to which an image pick-up field angle can be changed by driving the built-in lens for variable power. And a motor 16 is a stepping motor which drives the lens for these variable power according to the actuation instruction from the camera controller 31 mentioned later.

[0023] The revolution universal head 21 of the camera actuator 20 has the degree of freedom of biaxial hands of cut, such as a pan and a tilt, and moves and rotates the photography section 10 installed on this revolution universal head 21. Moreover, the motor 22 for pans and the motor 23 for tilts are stepping motors which drive this revolution universal head 21 according to the actuation instruction from the punch Ruta controller 32 mentioned later, respectively.

[0024] The camera controller 31 of the camera-control section 30 is a controller which always performs lens control (a focus, zoom) of the photography section 10, exposure control (extracting gain, electronic shutter speed), white balance control, image quality control, etc. Moreover, this camera controller 31 takes the interface of the mode controller 33 and the photography section 10 about control of the lens for variable power of the lens block 11 of the photography section 10. That is, in response to the actuation demand of the variable power lens sent from the mode controller 33, while always notifying the lens location of the variable power lens for zoom to the mode controller 33, a control signal is outputted to the driver of a motor 16 so that it may drive in the location where the variable power lens was demanded.

[0025] Moreover, the punch Ruta controller 32 of the camera-control section 30 takes the interface of the mode controller 33 and the camera actuator 20 similarly. that is, in response to an actuation demand of the pan of the revolution universal head 21 sent from the mode controller 33, and the direction of each tilt, while always notifying the location and include angle of the revolution universal head 21 to the mode controller 33, a control signal is outputted to Motor Driver of the motor 22 for pans, and the motor 23 for tilts so that it may drive in the location where the revolution universal head 21 was demanded.

[0026] It connects with the computer 50 through the network 40, and the mode

controller 33 controls the photography section 10 through the camera controller 31 as mentioned above. Moreover, the camera actuator 20 is controlled through the punch Ruta controller 32. That is, from the camera controller 31, the location and include angle of the revolution universal head 21 are always notified for the location of the lens for variable power of the lens block 11 from the punch Ruta controller 32.

[0027] By the way, an absolute location actuation demand of a video signal is inputted into the mode controller 33 from a computer 50. Therefore, this absolute location actuation demand is distributed to the actuation instruction of the revolution universal head 21, and the actuation instruction of the lens for variable power of the lens block 11, and the mode controller 33 inputs it into the camera controller 31 and the punch Ruta controller 32, respectively.

[0028] RS-232C shall be used as a network 40 here. The video capture 51 of a computer 50 displays the video signal inputted from the signal-processing section 15 of the photography section 10 in standard graphic display section 55a of a monitor 55 by the quality of arbitration. Moreover, it changes into the graphics formats (still picture of a bit map format and a JPEG format etc.) of arbitration at the quality of arbitration, and is made to record on the data storage section 52 with a capture signal. The data storage section 52 memorizes the video signal and picture signal which are inputted from video capture 51.

[0029] The image-processing section 53 acquires an image from the data storage section 52, and generates a panorama image from the data. And this is displayed in panorama image display section 55b of a monitor 55. In addition, in case a panorama image is generated, a direct image may be acquired and used from video capture 51.

[0030] CPU54 notifies the directions inputted by the user to the image-processing section 53 while controlling all internal components. Moreover, the communication link with the mode controller 33 through a network 40 is performed.

[0031] Drawing 3 is drawing having shown the example of the display screen displayed on a monitor 55 with the image processing system shown in drawing. Live graphic display section 55a and panorama image display section 55b are arranged independently at the monitor 55. Moreover, manual operation button group 55c is prepared for a display screen so that a camera station and a photography scale factor can be operated with pointing devices, such as a mouse. Moreover, in panorama image display section 55b, 55d of frames in which the location of a live image is shown is shown.

[0032] Moreover, drawing 4 is drawing having shown another example of the display screen displayed on a monitor 55 with the image processing system shown in drawing. Panorama image display section 55b is prepared in a monitor



55, and live graphic display section 55a is prepared in it. Furthermore, manual operation button group 55c is prepared. Here, a video signal is processed with the image processing system shown in drawing 2 , and the procedure of providing a user with a panorama image and a standard image is explained.

[0033] Drawing 5 is a flow chart which shows the procedure of processing a video signal in the image processing system shown in drawing 2 . Hereafter, it explains along with a step number.

The display screen displayed on the [S1] monitor 55 is initialized. The photography section 10 photos the image which can be photoed at the event, and the photoed image is displayed on live graphic display section 55a.

In CPU54 of the [S2] computer 50, in order to communicate with the mode controller 33 periodically, a timer and a timer event are set up.

If waiting and an event generate [S3] event generating, it will progress to step S4.

The class of event which carried out [S4] generating is investigated. If the event generated to step S6 when the event generated to step S5 when the generated event was a timer event was a panorama creation request event is a panorama zoom event, it will progress to step S7.

[S5] timer event processing is performed. In addition, timer event processing is explained later.

T is built to [S6] panorama creation demand flag.

[S7] panorama zoom event processing is performed. In addition, panorama zoom event processing is explained later.

[S8] It judges whether the actuation to this image processing system was completed. If actuation is termination, processing of this flow chart will also be ended. If actuation is not termination, it will progress to step S3 again.

[0034] Drawing 6 is the flow chart which showed the procedure of the timer event processing shown in drawing 5 . A timer event is an event generated for every setup time. Hereafter, it explains along with a step number.

It judges whether setting out of RS232C which is a communication link port has ended [S11] CPU54. If setting out of a communication link port is not completed and setting out of a communication link port is completed to step S12, it will progress to step S13.

[S12] CPU54 sets up a communication link port. The timer event of the beginning when setting out of a communication link port is not completed is ended now immediately after supplying a power source to this image processing system etc.

It judges whether [S13] CPU54 has received data in video capture 51. When there are received data, when there are no received data, it progresses to step S15 to step S14.

[S14] CPU54 analyzes received data. That is, the positional information of the

lens for variable power within the lens block 11 contained in received data and the positional information of each direction of the pantilt of the revolution universal head 21 are acquired. And the scale-factor information on a zoom and the include-angle information on a pantilt are computed from those information.

[S15] CPU54 judges whether the Request-to-Send flag used as T is T, when the data which should be transmitted to a transmission buffer are stored. In addition, when a Request-to-Send flag is T, when a Request-to-Send flag is not T, it progresses to step S17 to step S16.

[S16] CPU54 transmits the data stored in the transmission buffer to the mode controller 33. If transmission is completed, a Request-to-Send flag will be set to F, and will end a timer event.

It judges whether the value of the internal counter C is 0, or is 1, or [S17] CPU54 is 2. And if the value of the internal counter C becomes zero, it will become one to step S18 and it will become two to step S19, it will progress to step S21.

[S18] CPU54 transmits the commo data with which the location actuation demand was absolutely included in the mode controller 33 since the motor 22 for pans of the camera actuator 20 and the motor 23 for tilts were driven.

[S19] CPU54 transmits the commo data with which the location actuation demand was absolutely included in the mode controller 33 since the motor 16 for making the lens for variable power contained in the lens block 11 drive was

driven.

[S20] CPU54 adds 1 to the value of the internal counter C, and ends a timer event.

It judges whether as for [S21] CPU54, T stands on the panorama creation demand flag. And when T stands on the panorama creation demand flag and T does not stand to step S22, it progresses to step S23.

[S22] CPU54 controls the image-processing section 53, and performs panorama creation processing. In addition, panorama creation processing is explained after this.

[S23] CPU54 sets the value of the internal counter C to 0, and ends a timer event.

[0035] Next, the procedure of panorama creation processing is explained.

Drawing 7 is a flow chart which shows the procedure of panorama creation processing.

It judges whether the value of the internal counter P is 1, or is 2, or [S31] CPU54 is three or more. And if the value of the internal counter P becomes one, it will become two to step S32 and it will become three or more to step S34, it will progress to step S36.

[S32] CPU54 transmits the actuation instruction to the motor 16 for driving the lens for variable power contained in the lens block 11 so that the photography

scale factor of the image photoed by the mode controller 33 in the photography section 10 may become the set point.

[S33] CPU54 adds 1 to the value of the internal counter P, and progresses to step S31 again.

[S34] CPU54 transmits the actuation instruction to the motor 22 for pans and the motor 23 for tilts of the camera actuator 20 to the mode controller 33 so that the photographic coverage of the image photoed in the photography section 10 may be set as the location which performs an image processing by creation processing of this panorama image.

[S35] CPU54 adds 1 to the value of an internal counter, and progresses to step S31 again.

[S36] CPU54 checks that a photography scale factor is in agreement with the set point from the transmit data from the mode controller 33. When the photography scale factor is not in agreement with the set point, it progresses to step S31 again.

[S37] CPU54 checks that photographic coverage is set as the location which must perform an image processing by creation processing of this panorama image from the transmit data from the mode controller 33. When photographic coverage is not set up correctly, it progresses to step S31 again.

[S38] image-processing section 53 cuts down an image from the video signal

which video capture 51 has received at this event.

[S39] CPU54 transmits the actuation instruction to the motor 22 for pans and the motor 23 for tilts of the camera actuator 20 to the mode controller 33 so that the photographic coverage of the image photoed in the photography section 10 may be set as the location which performs an image processing next by creation processing of this panorama image.

[S40] image-processing section 53 performs the horizontal of the image cut down at step S39, and cutback processing to a perpendicular direction. Moreover, when the image by which cutback processing has already been carried out exists, the image which newly carried out cutback processing is connected with the image by which cutback processing has already been carried out. In addition, cutback processing and connection of an image are described in detail later.

[S41] image-processing section 53 displays the image with which cutback processing and connection ended on panorama image display section 55b of a monitor 55.

[S42] CPU54 adds 1 to the value of the internal counter P.

The image displayed at step S41 is a full screen, or [S43] CPU54 judges whether the full-screen panorama image was completed at this event. When it is judged that the full-screen panorama image was completed, it progresses to

step S44. When it is judged that the full-screen panorama image is not completed, it progresses to step S31 again.

[S44] CPU54 sets a panorama creation demand flag to F.

[S45] data-storage section 52 memorizes the generated full-screen panorama image.

[0036] Here, the cutback of an image and the approach of connection are explained. In addition, not a cutback but amplification is possible by the same approach. It is a scale factor to the subject-copy image before a cutback  $\alpha_1$ . If [ carry out and ]  $\beta_1 = 1/\alpha_1$ ,  $\gamma_1 = x\beta_1$  (the number of pixels of the direction of X of a  $1 \leq x \leq$  subject-copy image and x are the natural number), and  $\delta_1 = \gamma_1 - \text{int}(\gamma_1)$  ( $\text{int}(A)$  is an integer below A). Each pixel [ of the direction of X of the image after a cutback ]  $g(x)$  is computed by the degree type (1) from each pixel [ of a subject-copy image ]  $f(x)$ . In the image processing system of this invention, the direction of X of an image is reduced using this formula (1).

[0037]

[Equation 1]

$$g(x) = f(\text{int}(\gamma_1)) \times \text{int}(\gamma_1) \times (\delta_1 - 1) \\ + f(\text{int}(\gamma_1) + 1) \times ((\text{int}(\gamma_1) + 1) \times \delta_1 \cdots (1))$$

[0038] Next, same processing is performed to direction pixel [ of the image crushed in this direction of X / of Y ]  $f(y)$ . Namely, when referred to as  $\alpha_2 = Y_n/Y_u$ ,  $\beta_2 = 1/\alpha_2$ ,  $\gamma_2 = y \times \beta_2$  (the number of pixels of the direction of Y of a  $1 \leq y \leq$  subject-copy image and  $y$  are the natural number), and  $\delta_2 = \gamma_2 - \text{int}(\gamma_2)$ , Each pixel [ of the direction of Y after a cutback ]  $g(y)$  is computed by the degree type (2) from each pixel [ of a subject-copy image ]  $f(y)$ .

[0039]

[Equation 2]

$$g(y) = f(\text{int}(\gamma_2)) \times \text{int}(\gamma_2) \times (\delta_2 - 1) + f(\text{int}(\gamma_2) + 1) \times ((\text{int}(\gamma_2) + 1) \times \delta_2) \cdots (2)$$

[0040] Here, the situation of zooming in the panorama image created in a procedure which was explained above is explained. In addition, the following panorama images K are targetted in the following explanation.

[0041] In explaining zooming of a panorama image, drawing 8 is drawing having shown signs that the target panorama image was displayed on the monitor 55.

When  $q$  subject-copy images  $G_1$ - $G_n$  ( $X_0 \times Y_0$  pixel) photoed for the photography scale factor  $m_0$  are connected in the direction of X in  $p$  sheets and the direction of Y, the panorama image H is constituted. It is the panorama image K ( $0 \times q$  pixel



of  $a2 \times X0 \times pxY$ ) which reduced this panorama image H for the scale factor  $a$  ( $0 < a \leq 1$ ), and it is displayed all over panorama image display section 55b.

[0042] In addition, the live image L is reduced and expressed to live graphic display section 55a as a scale factor  $b$  ( $0 < b \leq 1$ ) at this time. It is  $a=b$  when the live image L is inserted in the panorama image K.

[0043] Drawing 9 is drawing having shown the situation of panorama image amplification. If the user who specified the field R1 ( $Xu \times Yu$  pixel) of a panorama image with the mouse etc. is going to expand this field R1 to a field R2 ( $Xn \times Yn$  pixel), a panorama zoom event will occur. In a panorama zoom event, the amplification to a field R2 from a field R1 is interlocked with, and the whole panorama image is expanded.

[0044] Supposing it expands the panorama image K shown in drawing 8 here, the panorama image K1 ( $a2 \times X0 \times pxY0 \times qx$ ) ( $x(Xn/Xu) \times (Yn/Yu)$  pixel) will be created by this amplification actuation and the panorama zoom event. However, since the part which is not restored to panorama image display section 55b on a monitor 55 among the panorama images K1 cannot be displayed, a scroll bar etc. may be formed as shown in drawing. In addition, each pixel is determined as a formula (1) with the application of scale-factor  $\alpha1 = Xn/Xu$  in this case.

[0045] In addition, only the subject-copy images G1-Gn and coordinate information required for connection are memorized, and you may make it

generate the panorama images H, K, and K1 if needed. Moreover, when the scale factor of a panorama image is set up in manual operation button group 55c as shown in drawing 3 , you may make it a panorama zoom event occur, although here explained the case where a panorama zoom event occurred with amplification of the appointed field in a panorama image.

[0046] Furthermore, when a panorama image is scrolled, the motion is interlocked with and you may make it make the revolution universal head 21 drive. Drawing 10 is drawing having shown another situation of panorama image amplification.

[0047] As shown in drawing, when the manual operation button is being prepared, the scale factor of the live image L can be changed into  $m_1$  from  $m_0$  with pointing devices, such as a mouse. In scale-factor change, although a field angle changes, film-valid-pixels  $X_0 \times Y_0$  does not change. So, in the panorama zoom event generated at this time, it is 2 ( $m_1/m_0$ ) of the panorama image H. The panorama image K2 with the twice as many number of pixels as this is generated.

[0048] In addition, scale-factor change is conversely calculated from amplification actuation of a panorama image, and you may make it make it drive the lens for variable power. Thus, if the conditions about a photography scale factor or a camera station over a live image are received, it will align with this

and a panorama image will be updated. For this reason, a user can recognize intuitively the response relation between a live image and a panorama image.

[0049]

[Effect of the Invention] Since it considered as the configuration which aligns and updates a wide angle image in the image processing system of this invention when the photography conditions about a standard image were received, when the image of a high scale factor is being displayed on the display frame of a standard image, the wide angle image which made the scale factor high the core [ the standard image ] can be displayed, and a user can be made to recognize the response relation intuitively, as explained above.

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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing the principle configuration of the image processing system of this invention.

[Drawing 2] It is a block diagram when [ whole ] a computer realizes the image processing system of this invention.

[Drawing 3] It is drawing having shown the example of the display screen

displayed on a monitor with the image processing system shown in drawing 2 .

[Drawing 4] It is drawing having shown another example of the display screen displayed on a monitor with the image processing system shown in drawing 2 .

[Drawing 5] In the image processing system shown in drawing 2 , it is the flow chart which shows the procedure of processing a video signal.

[Drawing 6] It is the flow chart which showed the procedure of the timer event processing shown in drawing 5 .

[Drawing 7] It is the flow chart which shows the procedure of panorama creation processing.

[Drawing 8] In explaining zooming of a panorama image, the target panorama image is drawing having shown signs that it was displayed on the monitor.

[Drawing 9] It is drawing having shown the situation of panorama image amplification.

[Drawing 10] It is drawing having shown another situation of panorama image amplification.

[Description of Notations]

1 [ .. A storage means, 3a / .. Image data, 4 / .. A wide angle image creation means, 4a / .. A wide angle image, 5 / .. An image display means, 6 / .. A photography condition directions means, 7 / .. A photography condition activation means, 8 / .. Renewal means of a wide angle image. ] .... A

photography means, 1a .. A standard image, 2 .. A driving means, 3